ASBESTOS SURVEY & ASSESSMENT REPORT
GREDE FOUNDRIES, INC.
REEDSBURG FOUNDRY
700 ASH STREET
REEDSBURG, WI 53959

Nova Client No.: DAVIS005
Project No.: C00-0066

April 20, 2000

Prepared For:

Davis & Kuelthau, s.c.
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Prepared by:

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EXECUTIVE SUMMARY

Nova Consulting Group, Inc. (Nova) was retained to perform an asbestos survey and assessment for asbestos-containing building materials (ACBM) of the Grede Foundries, Inc. Reedsburg Foundry facility located at 700 Ash Street in Reedsburg, Wisconsin.

The survey and assessment was completed in accordance with the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA), 40 CFR 763. The purpose of this inspection was to identify suspect friable and non-friable ACBM and properly assess the confirmed friable ACBM following the AHERA Hazard Ranking System. Based on the hazard rankings, appropriate response actions have been generated following the EPA Decision Tree. Suspect materials that were inaccessible or would require intrusive or destructive sampling were not sampled as part of this survey.

Asbestos-Containing Building Materials:

The survey was conducted on March 21-22, 2000 by certified inspectors Darby Nafziger and Jeffrey Menter. Nova collected 42 samples of friable and non-friable ACBM in a random and unbiased manner. The following types of material were analyzed and determined to contain asbestos (includes presumed/assumed positive materials):

Material Identification Number	Material Identification	Material Subcategory	Material Subcategory Description
214	4-8 Felt Pipe Insulation	FP1	6" Wrapped Pipe Insulation
310	12x12 Floor Tile & Mastic	FT1	Tan Mottled
310	12x12 Floor Tile & Mastic	FT2	White Floor Tile
324	Transite Pipe	TR1	Exhaust pipe
324	Transite Siding	TR2	Exterior Siding
406	Roofing Insulation/Fireproofing	RI1	Fibrous Roof Insulation Under Decking

AHERA hazard rankings for the friable ACBM listed above are provided in Table 1. The AHERA hazard ranking system has only been applied to friable ACBM.

The following materials do not contain asbestos:

Material Identification Number	Material Identification	Material Subcategory	Material Subcategory Description
101	Spray-On	SO1	Spray-On Soundproofing
222	0-4 Fibrous Pipe Fittings	FF1	Fibrous Fittings On Fiberglass Insulaiton
222	0-4 Fibrous Pipe Fittings	FF2	2" Mudded Fittings On Rest Room Lines
241	Tank Insulation	TI1	Spray-On Tank Insulation
303	2x4 Ceiling Tile	CT1	Off-White Fissured
303	2x4 Ceiling Tile	CT2	White With Fissures
303	2x4 Ceiling Tile	CT3	Off-White With Fissures And Pinholes
305	Sheetrock & Taping Compound	DW1	Drywall/ Taping Compound
306	Plaster	PL1	Wall Plaster
310	12x12 Floor Tile & Mastic	FT3	Grey Mottled

Conclusions:

A total of approximately 100 linear feet of friable asbestos-containing pipe-insulation and associated pipe-fittings, 4,000 square feet of friable asbestos-containing roof insulation; 1,150 square feet of non-friable asbestos-containing 12" X 12" floor tile and associated mastic; 40 square feet of non-friable transite exhaust pipe; and 800 square feet of non-friable asbestos-containing transite siding were identified during the survey.

The Environmental Protection Agencies (EPA) National Emission Standard for Hazardous Air Pollutants (NESHAP) as well as the Wisconsin Department of Natural Resources (WDNR) requires removal of regulated friable and non-friable damaged ACBM prior to demolition. EPA also requires the removal of regulated friable ACBM and non-friable ACBM that may become friable during renovation.

The Occupational Safety and Health Administration (OSHA) construction and general industry standards also regulate ACBM during removal and maintenance activities. In 1995, OSHA adopted asbestos regulations that, for the first time, may extend to many previously unregulated commercial and industrial buildings. The regulations lower the permissible asbestos exposure level in the workplace. They also make a number of technical changes both in the way various regulated activities are classified and in the practices required when asbestos is used, removed, managed, or disturbed. The biggest change, however, is to afford regulatory protection to a greater number of workers across a variety of environments.

Recommendations:

Based on the results of this investigation, Nova recommends the following:

- The facility owners should notify employees, tenants, contractors, and vendors working in the building of the presence, quantity, and location of identified or assumed ACBM.

- Approximately 100 linear feet of friable asbestos-containing pipe-insulation and associated pipe-fittings were identified beneath a stairwell adjacent to the main office area. In addition, approximately 4,000 square feet of friable asbestos-containing roof insulation was identified beneath the corrugated roof decking adjacent to a second floor storage room; 1,150 square feet of non-friable asbestos-containing 12" X 12" floor tile and associated mastic was identified in the Plant 5 Maintenance offices and storage areas; approximately 40 square feet of non-friable transite exhaust pipe was identified in the storage room above the main locker room area; and approximately 800 square feet of non-friable asbestos-containing transite siding was identified at the north storage building. The pipe insulation and associated fittings were damaged and in poor condition during the time of the survey and were given an AHERA Hazard Ranking of 2. A Hazard Ranking of 2 is defined as ACBM that is damaged and is located in areas where disruption could be expected due to work being performed in the area and/or dispersed in moving air. The roof insulation/fireproofing was not damaged and in good condition during the time of the survey and was given an AHERA Hazard Ranking of 6. A Hazard Ranking of 6 is defined as friable ACBM that is in good condition, but has potential for damage. Hazard Rankings are not required for non-friable materials (i.e. vinyl floor tile, mastic, transite) and are therefore not provided as part of this report.

- According to the EPA Decision Tree, continue Operations and Maintenance (O&M) and repair or remove damaged areas as soon as possible. Short-term corrective action may include reducing potential for damage, encapsulating damaged sections and/or restricting access to the area.

- All friable ACBM, damaged non-friable ACBM, and all non-friable ACBM, which may become friable during renovation or demolition, should be removed from the affected areas of the building prior to these activities.

- The owners should submit completed Notifications of Intent to Perform Asbestos Abatement or Demolition/Renovation forms to the appropriate regulatory agencies.

- Any areas of the building not inspected during this investigation should be assumed to contain asbestos. Prior to any renovation, demolition, or disturbance of potential ACBM, selective demolition with appropriate controls are recommended until the asbestos content of the potentially impacted materials can be confirmed.

- The owner should maintain an Operations and Maintenance (O&M) Program for ACBM remaining in the facility.

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APPENDICES

1.0 INTRODUCTION

The Grede Foundries, Inc. Reedsburg Foundry facility is located at 700 Ash Street in the City of Reedsburg, Wisconsin. The facility was constructed in stages from the 1940s through the 1990s and is comprised of steel frame on concrete slab construction. The approximately 350,000 square foot facility consists of office areas, mechanical spaces, maintenance/tooling areas, storage spaces, shipping and warehousing areas. The remaining areas of the facility consist of manufacturing operations.

The EPA's NESHAP (40 CFR Part 61) requires building owners to inspect for ACBM, specifically in areas of a building where renovation or demolition will be performed. Prior to renovation or demolition of a building, all regulated friable ACBM must be removed from the affected area. In addition, non-friable materials, which are in a damaged condition or are likely to become friable during the process of renovation or demolition also require removal. Non-friable materials, which are in good condition at the time of inspection and most likely will not become friable during demolition may under certain circumstances, remain in place prior to demolition. EPA and OSHA define any building material that contains greater than one-percent asbestos to be an asbestos-containing material.

1.1 Project Description

The Grede Foundries, Inc. Reedsburg Foundry facility located at 700 Ash Street in the City of Reedsburg, Wisconsin was inspected by USEPA and state of Wisconsin certified building inspectors (b) (6), (b) (7)(C) and (b) (6), (b) (7)(C) for the presence of asbestos-containing materials. A total of 42 bulk samples were collected and analyzed by Nova's NVLAP accredited laboratory. The survey and assessment were conducted in accordance with EPA's Asbestos Hazard Emergency Response Act (AHERA).

1.2 Assessment Methodology

Materials identified as asbestos containing were assessed with respect to their existing condition and the potential for future damage or disturbance. The condition of the materials were assessed relative to the following criteria:

- Existing mechanical damage (percentage and type)
- Water damage
- Accumulation of debris, dust, powder below suspect ACBM
- Friability
- Area usage and expected duration of use
- Accessibility

The potential for future damage and disturbance were evaluated with respect to:

- Potential for worker contact with the ACBM
- Influence of vibration on the materials

Based on these factors each ACBM was assigned a hazard ranking ranging from 1 to 7. Using the EPA Decision Tree a recommended Response Action is applied to each ACBM. The EPA Decision Trees are presented in Appendix C: Figures 1 & 2. The hazard rankings and applicable response actions are listed below:

Hazard Ranking	**Response Action**
1 Asbestos-containing building materials (ACBM) are present and significant damage has occurred (ACBM loose and subject o dispersal in moving air)	Isolate area and restrict access. Removal of asbestos should be conducted as soon as possible to prevent accidental fiber release. Where applicable, effect repair to the damaged ACBM to alter Response Action.
2 ACBM is present and damage has occurred. The ACBM is in areas where fiber disruption could be expected due to work being performed in the area and/or dispersed in moving air.	Continue O&M. Repair or remove damaged areas as soon as possible. Short-term corrective actions may include: a. Reduce potential for disturbance. b. Encapsulate damaged sections. c. Restrict access to the area.
3-5 ACBM is present and damage has occurred. There is moderate to low potential for disturbance and entrainment into an airflow is unlikely.	Patch and repair the damaged ACBM sections with bridging encapsulant, rewettable cloth, or glove bag removal. Continue O&M. Number indicates priority if all repairs cannot be done immediately.
6-7 ACBM is present without damage in areas subject to moderate or high activity, or potential for disturbance.	Continue O&M. Take measures to reduce the potential for disturbance. Number indicates priority for removal.

2.0 RESULTS

2.1 Asbestos-Containing Material

The following types of material were found to contain asbestos. The area-by-area inventory is presented in Section 5.0 as Table 1: Material Identification Inventory. The laboratory analytical results are presented in Section 5.0 as Table 2: Material Sample Analysis.

Asbestos was identified in the following materials (includes presumed/assumed positive materials):

Material ID Number	Material Identi-fication	Material Subcat-egory	Area	Sum Of Quantity	Unit	Condition	Friability
214	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	Plant Office	100	LF	Non-Damaged	Friable
310	12x12 Floor Tile & Mastic	Tan Mottled	Plant 5 Maintenance	250	SF	Non-Damaged	Non-friable
310	12x12 Floor Tile & Mastic	White Floor Tile	Plant 5 Maintenance	900	SF	Non-Damaged	Non-friable
324	Transite Pipe	Exhaust Pipe	Storage Room Above Main Locker Room	40	SF	Non-Damaged	Non-friable
324	Transite Siding	Exterior Siding	North Storage Building	800	SF	Non-Damaged	Non-friable
406	Roofing Insulation	Fibrous Roof Insulation Under Decking	Mechanical Room	4,000	SF	Non-Damaged	Friable

4-8" Felt Pipe Insulation & Associated Fittings: Approximately 100 linear feet of friable asbestos-containing material was identified beneath a stairwell adjacent to the main office area. This material was damaged and appeared to be in poor condition during the time of the survey.

12" X 12" Tan Mottled Floor Tile & Associated Mastic: Approximately 750 square feet of non-friable asbestos-containing material was identified in the Plant 5 Maintenance upper level office and training rooms. This material was not damaged and appeared to be in generally good condition during the time of the survey.

12" X 12" White Floor Tile & Associated Mastic: Approximately 900 square feet of non-friable asbestos-containing material was identified in the plant offices, stairwell, and tool storage areas. This material was not damaged and appeared to be in generally good condition during the time of the survey.

Roofing Insulation: Approximately 4,000 square feet of friable asbestos-containing material was identified beneath the corrugate metal decking adjacent to a second floor storage room. This material was not damaged and appeared to be in generally good condition during the time of the survey.

Transite Exhaust Pipe: Approximately 40 square feet of non-friable asbestos-containing material was identified in a second floor storage area. This material was not damaged and appeared to be in generally good condition during the time of the survey.

Transite Siding: Approximately 800 square feet of non-friable asbestos-containing material was identified at the north storage building. This material was not damaged and appeared to be in generally good condition during the time of the survey.

The following materials were analyzed and do not contain asbestos:

Material Identification Number	Material Identification	Material Subcategory	Material Subcategory Description	Sum Of Quantity	Unit
101	Spray-On	SO1	Spray-On Soundproofing	1,700	SF
222	0-4 Fibrous Pipe Fittings	FF1	Fibrous Fittings On Fiberglass Insulaiton	90	EA
222	0-4 Fibrous Pipe Fittings	FF2	2" Mudded Fittings On Rest Room Lines	180	EA

241	Tank Insulation	TI1	Spray-On Tank Insulation	300	SF
303	2x4 Ceiling Tile	CT1	Off-White Fissured	750	SF
303	2x4 Ceiling Tile	CT2	White With Fissures	2,700	SF
303	2x4 Ceiling Tile	CT3	Off-White With Fissures And Pinholes	3,000	SF
305	Sheetrock & Taping Compound	DW1	Drywall/ Taping Compound	60,000	SF
306	Plaster	PL1	Wall Plaster	300	SF
310	12x12 Floor Tile & Mastic	FT3	Grey Mottled	900	SF

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

Nova conducted an asbestos survey and assessment of the Grede Foundries, Inc. Reedsburg Foundry facility located at 700 Ash Street in Reedsburg Wisconsin on March 21-22, 2000. Laboratory analysis of 42 bulk samples detected asbestos (includes presumed/assumed positive materials) in the following materials:

Material Identification Number	Material Identification	Material Subcategory	Material Subcategory Description	Sum Of Quantity	Unit
214	4-8 Felt Pipe Insulation	FP1	6" Wrapped Pipe Insulation	100	LF
310	12x12 Floor Tile & Mastic	FT1	Tan Mottled	250	SF
310	12x12 Floor Tile & Mastic	FT2	White Floor Tile	900	SF
324	Transite Pipe	TR1	Exhaust Pipe	40	SF
324	Transite Siding	TR2	Exterior Siding	800	SF
406	Roofing Insulation	RI1	Fibrous Roof Insulation Under Decking	4,000	SF

A total of approximately 100 linear feet of friable asbestos-containing pipe-insulation and associated pipe-fittings, 4,000 square feet of friable asbestos-containing roof insulation; 1,150 square feet of non-friable asbestos-containing 12" X 12" floor tile and associated mastic; 40 square feet of non-friable transite exhaust pipe; and 800 square feet of non-friable asbestos-containing transite siding was identified during the survey.

Nova did not inspect any areas of the building that were not readily accessible without intrusive or destructive sampling techniques, such as within or behind walls. Any areas of the building not accessible for inspection during the survey should be assumed to contain asbestos until tested and proven otherwise.

3.2 Recommendations

Based on the results of this investigation, Nova recommends the following:

- The facility owners should notify employees, tenants, contractors, and vendors working in the building of the presence, quantity, and location of identified or assumed ACBM.

- Approximately 100 linear feet of friable asbestos-containing pipe-insulation and associated pipe-fittings were identified beneath a stairwell adjacent to the main office area. In addition, approximately 4,000 square feet of friable asbestos-containing roof insulation was identified beneath the corrugated roof decking adjacent to a second floor storage room; 1,150 square feet of non-friable asbestos-containing 12" X 12" floor tile and associated mastic was identified in the Plant 5 Maintenance offices and storage areas; approximately 40 square feet of non-friable transite exhaust pipe was identified in the storage room above the main locker room area; and approximately 800 square feet of non-friable asbestos-containing transite siding was identified at the north storage building. The pipe insulation and associated fittings were damaged and in poor condition during the time of the survey and were given an AHERA Hazard Ranking of 2. A Hazard Ranking of 2 is defined as ACBM that is damaged and is located in areas where disruption could be expected due to work being performed in the area and/or dispersed in moving air. The roof insulation was not damaged and in good condition during the time of the survey and was given an AHERA Hazard Ranking of 6. A Hazard Ranking of 6 is defined as friable ACBM that is in good condition, but has potential for damage. Hazard Rankings are not required for non-friable materials (i.e. vinyl floor tile, mastic, transite) and are therefore not provided as part of this report.

- According to the EPA Decision Tree, continue Operations and Maintenance (O&M) and repair or remove damaged areas as soon as possible. Short-term corrective action may include reducing potential for damage, encapsulating damaged sections and/or restricting access to the area.

- All friable ACBM, damaged non-friable ACBM, and all non-friable ACBM, which may become friable during renovation or demolition, should be removed from the affected areas of the building prior to these activities.

- The owners should submit completed Notifications of Intent to Perform Asbestos Abatement or Demolition/Renovation forms to the appropriate regulatory agencies.

- Any areas of the building not inspected during this investigation should be assumed to contain asbestos. Prior to any renovation, demolition, or disturbance of potential ACBM, selective demolition with appropriate controls are recommended until the asbestos content of the potentially impacted materials can be confirmed.

- The owner should maintain an Operations and Maintenance (O&M) Program for ACBM remaining in the facility.

4.0 STANDARD OF CARE

The services performed by Nova Consulting Group, Inc. (Nova) on this project have been conducted with that level of care of skill ordinarily exercised by reputable members of the profession, practicing in the same locality under similar budget and time constraints. No other warranty is expressed or implied.

Prepared By:

NOVA CONSULTING GROUP, INC.

(b) (6), (b) (7)(C)

Project Manager

(b) (6), (b) (7)(C)

Group Manager

5.0 TABLE 1, TABLE 2, DRAWINGS

TABLE 1

MATERIAL IDENTIFICATION INVENTORY

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Lunch Room

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
2nd Floor	310	12x12 Floor Tile & Mastic	M	ND	300	SF							0	NA
2070	FT3	Grey Mottled												
2nd Floor	310	12x12 Floor Tile & Mastic	M	ND	300	SF							0	NA
2070	FT3	Grey Mottled												
2nd Floor	310	12x12 Floor Tile & Mastic	M	ND	300	SF							0	NA
2070	FT3	Grey Mottled												

ND = None Detected NSMP = No Suspect Materials Present
NT = Not Tested NS = Not Suspect PRE = Presumed TR = Trace (<1%)

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Main Office

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
North Side of Plant	305	Sheetrock & Taping Compound	M	ND	20000	SF							0	NA
Closet	DW1	Drywall/ Taping Compound												

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Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Mechanical Room

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
Above Main Locker Room	241	Tank Insulation	T	ND	100	SF							0	NA
Boiler Room	TI1	Spray-On Tank Insulation												
Above Main Locker Room	241	Tank Insulation	T	ND	100	SF							0	NA
Boiler Room	TI1	Spray-On Tank Insulation												
Above Main Locker Room	241	Tank Insulation	T	ND	100	SF							0	NA
Boiler Room	TI1	Spray-On Tank Insulation												
Above Main Locker Room	306	Plaster	M	ND	100	SF							0	NA
Boiler Room	PL1	Wall Plaster												
Above Main Locker Room	306	Plaster	M	ND	100	SF							0	NA
Boiler Room	PL1	Wall Plaster												
Above Main Locker Room	306	Plaster	M	ND	100	SF							0	NA
Boiler Room	PL1	Wall Plaster												
Above Main Locker Room	305	Sheetrock & Taping Compound	M	ND	20000	SF							0	NA
Storage	DW1	Drywall/ Taping Compound												
Above Main Locker Room	406	Roofing Insulation	M	YES	4000	SF	F	N	M	L	L	L	2	6
Storage	RI1	Fibrous Roof Insulation Under Decking												
Above Main Locker Room	406	Roofing Insulation	M	YES	4000	SF	F	N	M	L	L	L	2	6
Storage	RI1	Fibrous Roof Insulation Under Decking												
Above Main Locker Room	406	Roofing Insulation	M	YES	4000	SF	F	N	M	L	L	L	2	6
Storage	RI1	Fibrous Roof Insulation Under Decking												

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Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Mechanical Space

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
Above Main Locker Room	324	Transite	M		40	SF	N	N	L	L	L	L	1	NA
Storage	TR1	16" Transite Exhaust Pipe												
Assumed														

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Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Men's Locker/ Bath Room

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Air	Vib	Acc	Cond. Rating	AHERA Cat.
2nd Floor	303	2x4 Ceiling Tile	M	ND	1000	SF							0	NA
2070	CT3	Off-White With Fissures And Pinholes												
2nd Floor	303	2x4 Ceiling Tile	M	ND	1000	SF							0	NA
2070	CT3	Off-White With Fissures And Pinholes												
2nd Floor	303	2x4 Ceiling Tile	M	ND	1000	SF							0	NA
2070	CT3	Off-White With Fissures And Pinholes												

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Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Men's Rest Room

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Air	Vib	Acc	Cond. Rating	AHERA Cat.
1st Floor Under Locker Room	222	0-4 Fibrous Pipe Fittings	T	ND	60	EA							0	NA
2070 Above Ceiling	FF2	2" Mudded Fittings On Rest Room Lines												
1st Floor Under Locker Room	222	0-4 Fibrous Pipe Fittings	T	ND	60	EA							0	NA
2070 Above Ceiling	FF2	2" Mudded Fittings On Rest Room Lines												
Main Locker Room Behing Main Offices	222	0-4 Fibrous Pipe Fittings	T	ND	60	EA							0	NA
Rest Room Above Ceiling	FF2	2" Mudded Fittings On Rest Room Lines												

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1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Out Building

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
North of Plant	324	Transite	M		800	SF	N	N	M	L	L	L	1	NA
	TR2	Transite Siding												
Assumed														

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Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Plant 5 Clean

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
Center of Plant Above Locker	101 SO1	Spray-On Spray-On Soundproofing	S	ND	600	SF							0	NA
Center of Plant Above Locker	101 SO1	Spray-On Spray-On Soundproofing	S	ND	600	SF							0	NA
Center of Plant Outside Locker Area	222 FF1	0-4 Fibrous Pipe Fittings Fibrous Fittings On Fiberglass Insulaiton	T	ND	30	EA							0	NA

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NT = Not Tested NS = Not Suspect PRE = Presumed TR = Trace (<1%)

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Plant 5 Maintenance

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
Maintenance Office	305	Sheetrock & Taping Compound	M	ND	20000	SF							0	NA
Office	DW1	Drywall/ Taping Compound												
Plant Offices	303	2x4 Ceiling Tile	M	ND	900	SF							0	NA
Office	CT2	White With Fissures												
Plant Offices	303	2x4 Ceiling Tile	M	ND	900	SF							0	NA
Office	CT2	White With Fissures												
Plant Offices	310	12x12 Floor Tile & Mastic	M	YES	300	SF	N	N	L	L	L	M	1	NA
Office	FT2	White Floor Tile												
Plant Offices	310	12x12 Floor Tile & Mastic	M	YES	300	SF	N	N	L	L	L	M	1	NA
Stairwell	FT2	White Floor Tile												
Plant Offices	310	12x12 Floor Tile & Mastic	M	YES	300	SF	N	N	L	L	L	M	1	NA
Tool Area	FT2	White Floor Tile												
SW Area	101	Spray-On	S	ND	500	SF							0	NA
Maintenance	SO1	Spray-On Soundproofing												
SW Area	222	0-4 Fibrous Pipe Fittings	T	ND	30	EA							0	NA
Maintenance	FF1	Fibrous Fittings On Fiberglass Insulaiton												
SW Area	222	0-4 Fibrous Pipe Fittings	T	ND	30	EA							0	NA
Maintenance	FF1	Fibrous Fittings On Fiberglass Insulaiton												
Upper Level Office	303	2x4 Ceiling Tile	M	ND	250	SF							0	NA
Training Room	CT1	Off-White Fissured												

ND = None Detected NSMP = No Suspect Materials Present
NT = Not Tested NS = Not Suspect PRE = Presumed TR = Trace (<1%)

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Area: Plant 5 Maintenance

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty	Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Air	Vib	Acc	Cond. Rating	AHERA Cat.
Upper Level Office Training Room	303 CT1	2x4 Ceiling Tile Off-White Fissured	M	ND	250	SF							0	NA
Upper Level Office Training Room	303 CT1	2x4 Ceiling Tile Off-White Fissured	M	ND	250	SF							0	NA
Upper Level Office Training Room	310 FT1	12x12 Floor Tile & Mastic Tan Mottled	M	YES	250	SF	N	N	L	L	L	M	1	NA
Upper Level Office Training Room	310 FT1	12x12 Floor Tile & Mastic Tan Mottled	M	YES	250	SF	N	N	L	L	L	M	1	NA
Upper Level Office Training Room	310 FT1	12x12 Floor Tile & Mastic Tan Mottled	M	YES	250	SF	N	N	L	L	L	M	1	NA
Upper Level Plant Offices Office	303 CT2	2x4 Ceiling Tile White With Fissures	M	ND	900	SF							0	NA

ND = None Detected NSMP = No Suspect Materials Present
NT = Not Tested NS = Not Suspect PRE = Presumed TR = Trace (<1%)

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 1: Material Identification Inventory

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959

Survey Date: March (21,22), 2000

Area: Plant Office

Location / Room Number	Material Id# / Subcategory	Material Identification / Subcategory Description	Mat'l Code	Asbestos Content	Qty Unit	Physical Assess. Fri	Physical Assess. Cond	Damage Potential Water	Damage Potential Air	Damage Potential Vib	Damage Potential Acc	Cond. Rating	AHERA Cat.
Behind Main Offices	214	4-8 Felt Pipe Insulation	T	YES	100 LF	F	SD	H	L	L	M	4	1
Under Stairwell	FP1	6" Wrapped Pipe Insulation											
Behind Main Offices	214	4-8 Felt Pipe Insulation	T	YES	100 LF	F	SD	H	L	L	M	4	1
Under Stairwell	FP1	6" Wrapped Pipe Insulation											
Behind Main Offices	214	4-8 Felt Pipe Insulation	T	YES	100 LF	F	SD	H	L	L	M	4	1
Under Stairwell	FP1	6" Wrapped Pipe Insulation											

ND = None Detected NSMP = No Suspect Materials Present
NT = Not Tested NS = Not Suspect PRE = Presumed TR = Trace (<1%)

TABLE 2

MATERIAL SAMPLE ANALYSIS

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 2: Bulk Sample Analysis

Project Number:	**C00-0065**	***Client Name:***	**Davis and Kuelthau**
Client Number:	**DAVIS 005**	***Building Name:***	**Grede Reedsburg Foundry**
Login Number:	**23821**	***Building Address:***	**700 Ash Street Reedsburg, WI 53959**
Building Number:		***Survey Date:***	**March (21,22), 2000**

Project Manager: (b) (6), (b) (7)(C) **Survey Date(s):** March (21,22), 2000 **Container Type:** Whirlpak

Analytical Method: Polarized Light Microscopy with Dispersion Staining (EPA/600/R-63/116, July 1993) **Total # Samples:** 42

Sampled By:	(b) (6), (b) (7)(C)	**Date/Time:** 3/21/2000	**Received/Lab By:**	(b) (6), (b) (7)(C)	**Date/Time:** 3/24/2000
Received By:		**Date/Time:**	**Logged in By:**		**Date/Time:** 4/3/2000
Relinquished By:		**Date/Time:**	**Analyzed By:**		**Date/Time:** 4/5/2000
Turnaround Time:		**Due:**	**Client Notified By**		**Date/Time:**

Note

Mtl ID#-Sub-Ltr Sample Position	Area Location / Room#	Material Description	Subcategory Description	Asbestos Fiber	Non-Asbestos Fibers	Comments/ Nonfibrous Material
101 - SO1 -A	Plant 5 Maintenance SW Area / Maintenance	Spray-On	Spray-On Soundproofing	ND	95% Cellulose	5% Other
101 - SO1 -B	Plant 5 Clean Center of Plant / Above Locker	Spray-On	Spray-On Soundproofing	ND	95% Cellulose	5% Other
101 - SO1 -C	Plant 5 Clean Center of Plant / Above Locker	Spray-On	Spray-On Soundproofing	ND	95% Cellulose	5% Other
214 - FP1 -A	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	ND	95% Cellulose	5% Other Brown Fibrous
214 - FP1 -A	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	15% Chrysotile	50% Cellulose	35% Other Tan Fibrous
214 - FP1 -B	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	ND	95% Cellulose	5% Other Brown Fibrous
214 - FP1 -B	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	15% Chrysotile	50% Cellulose	35% Other Tan Fibrous

ND = None Detected NT = Not Tested TRACE = <1%
Detection Limit = 1%

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 2: Bulk Sample Analysis

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Mtl ID#-Sub-Ltr Sample Position	Area Location / Room#	Material Description	Subcategory Description	Asbestos Fiber	Non-Asbestos Fibers	Comments/ Nonfibrous Material
214 - FP1 -C	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	ND	95% Cellulose	5% Other
214 - FP1 -C	Plant Office Behind Main Offices / Under Stairwell	4-8 Felt Pipe Insulation	6" Wrapped Pipe Insulation	20% Chrysotile	50% Cellulose	30% Other Tan Fibrous
222 - FF1 -A	Plant 5 Maintenance SW Area / Maintenance	0-4 Fibrous Pipe Fittings	Fibrous Fittings On Fiberglass Insulaiton	ND	5% Cellulose 15% Fibrous Glass	80% Other
222 - FF1 -B	Plant 5 Maintenance SW Area / Maintenance	0-4 Fibrous Pipe Fittings	Fibrous Fittings On Fiberglass Insulaiton	ND	15% Fibrous Glass	85% Other
222 - FF1 -C	Plant 5 Clean Center of Plant / Outside Locker Area	0-4 Fibrous Pipe Fittings	Fibrous Fittings On Fiberglass Insulaiton	ND	15% Fibrous Glass	85% Other
222 - FF2 -A	Men's Rest Room 1st Floor Under Locker Room / 2070	0-4 Fibrous Pipe Fittings	2" Mudded Fittings On Rest Room Lines	ND	10% Cellulose 15% Fibrous Glass	75% Other
222 - FF2 -B	Men's Rest Room 1st Floor Under Locker Room / 2070	0-4 Fibrous Pipe Fittings	2" Mudded Fittings On Rest Room Lines	ND	10% Cellulose 15% Fibrous Glass	75% Other
222 - FF2 -C	Men's Rest Room Main Locker Room Behing Main Offices / Rest Room	0-4 Fibrous Pipe Fittings	2" Mudded Fittings On Rest Room Lines	ND	10% Cellulose 15% Fibrous Glass	75% Other
241 - TI1 -A	Mechanical Room Above Main Locker Room / Boiler Room	Tank Insulation	Spray-On Tank Insulation	ND	95% Cellulose	5% Other
241 - TI1 -B	Mechanical Room Above Main Locker Room / Boiler Room	Tank Insulation	Spray-On Tank Insulation	ND	95% Cellulose	5% Other

ND = None Detected NT = Not Tested TRACE = <1%
Detection Limit = 1%

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 2: Bulk Sample Analysis

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Mtl ID#-Sub-Ltr Sample Position	Area Location / Room#	Material Description	Subcategory Description	Asbestos Fiber	Non-Asbestos Fibers	Comments/ Nonfibrous Material
241 - TI1 -C	Mechanical Room Above Main Locker Room / Boiler Room	Tank Insulation	Spray-On Tank Insulation	ND	95% Cellulose	5% Other
303 - CT1 -A	Plant 5 Maintenance Upper Level Office / Training Room	2x4 Ceiling Tile	Off-White Fissured	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT1 -B	Plant 5 Maintenance Upper Level Office / Training Room	2x4 Ceiling Tile	Off-White Fissured	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT1 -C	Plant 5 Maintenance Upper Level Office / Training Room	2x4 Ceiling Tile	Off-White Fissured	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT2 -A	Plant 5 Maintenance Plant Offices / Office	2x4 Ceiling Tile	White With Fissures	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT2 -B	Plant 5 Maintenance Plant Offices / Office	2x4 Ceiling Tile	White With Fissures	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT2 -C	Plant 5 Maintenance Upper Level Plant Offices / Office	2x4 Ceiling Tile	White With Fissures	ND	60% Cellulose 10% Fibrous Glass	30% Other
303 - CT3 -A	Men's Locker/ Bath Room 2nd Floor / 2070	2x4 Ceiling Tile	Off-White With Fissures And Pinholes	ND	50% Cellulose 20% Fibrous Glass	30% Other
303 - CT3 -B	Men's Locker/ Bath Room 2nd Floor / 2070	2x4 Ceiling Tile	Off-White With Fissures And Pinholes	ND	50% Cellulose 20% Fibrous Glass	30% Other
303 - CT3 -C	Men's Locker/ Bath Room 2nd Floor / 2070	2x4 Ceiling Tile	Off-White With Fissures And Pinholes	ND	50% Cellulose 20% Fibrous Glass	30% Other
305 - DW1 -A	Mechanical Room Above Main Locker Room / Storage	Sheetrock & Taping Compound	Drywall/ Taping Compound	ND		100% Other Taping Compound Layer

ND = None Detected NT = Not Tested TRACE = <1%
Detection Limit = 1%

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 2: Bulk Sample Analysis

Project Number: C00-0065
Client Number: DAVIS 005
Login Number: 23821
Building Number:

Client Name: Davis and Kuelthau
Building Name: Grede Reedsburg Foundry
Building Address: 700 Ash Street
Reedsburg, WI 53959
Survey Date: March (21,22), 2000

Mtl ID#-Sub-Ltr Sample Position	Area Location / Room#	Material Description	Subcategory Description	Asbestos Fiber	Non-Asbestos Fibers	Comments/ Nonfibrous Material
305 - DW1 -A	Mechanical Room Above Main Locker Room / Storage	Sheetrock & Taping Compound	Drywall/ Taping Compound	ND	10% Cellulose 3% Fibrous Glass	87% Other Sheetrock Layer
305 - DW1 -B	Plant 5 Maintenance Maintenance Office / Office	Sheetrock & Taping Compound	Drywall/ Taping Compound	ND	5% Cellulose 3% Fibrous Glass	92% Other Sheetrock Layer No Taping Compound
305 - DW1 -C	Main Office North Side of Plant / Closet	Sheetrock & Taping Compound	Drywall/ Taping Compound	ND	10% Cellulose 3% Fibrous Glass	87% Other Sheetrock Layer No Taping Compound
306 - PL1 -A	Mechanical Room Above Main Locker Room / Boiler Room	Plaster	Wall Plaster	ND		100% Other
306 - PL1 -B	Mechanical Room Above Main Locker Room / Boiler Room	Plaster	Wall Plaster	ND		100% Other
306 - PL1 -C	Mechanical Room Above Main Locker Room / Boiler Room	Plaster	Wall Plaster	ND		100% Other
310 - FT1 -A	Plant 5 Maintenance Upper Level Office / Training Room	12x12 Floor Tile & Mastic	Tan Mottled	3% Chrysotile		97% Other Floor Tile No Mastic
310 - FT1 -B	Plant 5 Maintenance Upper Level Office / Training Room	12x12 Floor Tile & Mastic	Tan Mottled	3% Chrysotile		97% Other Floor Tile
310 - FT1 -B	Plant 5 Maintenance Upper Level Office / Training Room	12x12 Floor Tile & Mastic	Tan Mottled	ND Mastic		100% Other Clear Mastic
310 - FT1 -C	Plant 5 Maintenance Upper Level Office / Training Room	12x12 Floor Tile & Mastic	Tan Mottled	3% Chrysotile		97% Other Floor Tile

ND = None Detected NT = Not Tested TRACE = <1%
Detection Limit = 1%

Nova Consulting Group, Inc.
1107 Hazeltine Boulevard, Suite #400
Chaska, MN 55318

Table 2: Bulk Sample Analysis

Project Number: **C00-0065**
Client Number: **DAVIS 005**
Login Number: **23821**
Building Number:

Client Name: **Davis and Kuelthau**
Building Name: **Grede Reedsburg Foundry**
Building Address: **700 Ash Street**
Reedsburg, WI 53959
Survey Date: **March (21,22), 2000**

Mtl ID#-Sub-Ltr Sample Position	Area Location / Room#	Material Description	Subcategory Description	Asbestos Fiber	Non-Asbestos Fibers	Comments/ Nonfibrous Material
406 - RI1 -B	Mechanical Room Above Main Locker Room / Storage	Roofing Insulation	Fibrous Roof Insulation Under Decking	35% Chrysotile	15% Fibrous Glass	50% Other
406 - RI1 -C	Mechanical Room Above Main Locker Room / Storage	Roofing Insulation	Fibrous Roof Insulation Under Decking	25% Chrysotile	15% Fibrous Glass	60% Other

ND = None Detected NT = Not Tested TRACE = <1%
Detection Limit = 1%